

**CLAIMS**

What is claimed is:

1. A portable x-ray device, comprising:  
5 a housing containing an x-ray source and an integrated power system; and  
detecting means structurally unattached to the housing.
2. The device of claim 1, wherein the detecting means is electrically coupled to the  
x-ray device.
3. The device of claim 1, wherein the detecting means electrically communicates  
10 with the x-ray device using wireless technology.
4. The device of claim 1, wherein the device comprised integrated display means.
5. The device of claim 4, wherein the display means comprises an LCD screen.
6. The device of claim 1, wherein the housing is shaped substantially in the form of  
a camera.
- 15 7. The device of claim 1, wherein the power system comprises a plurality of low  
voltage power supplies with each power supply providing a power ranging from about 20 to  
about 50 kV.
8. The device of claim 1, wherein the x-ray source is shielded with a low-density  
insulating material containing a high-Z substance.
- 20 9. A portable x-ray device, comprising:

a housing containing an x-ray source, an integrated power system, and integrated display means; and

detecting means structurally unattached to the housing.

10. The device of claim 9, wherein the housing is shaped substantially in the form of  
5 a camera.

11. The device of claim 9, wherein the power system comprises a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV.

12. The device of claim 9, wherein the x-ray source is shielded with a low-density  
10 insulating material containing a high-Z substance.

13. A digital x-ray camera, comprising:

a housing containing an x-ray source, an integrated power system, and integrated display means; and

detecting means structurally unattached to the housing.

15 14. The device of claim 13, wherein the power system comprises a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV.

15. The device of claim 13, wherein the x-ray source is shielded with a low-density insulating material containing a high-Z substance.

16. A system for x-ray analysis, the system containing a digital x-ray camera with a housing containing an x-ray source and an integrated power system, and detecting means structurally unattached to the housing.

17. The system of claim 16, wherein the power system comprises a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV.

18. The system of claim 16, wherein x-ray source is shielded with a low-density insulating material containing a high-Z substance.

19. A method for making a portable x-ray device, the method comprising:  
providing a housing with an x-ray source and an integrated power system; and  
providing detecting means structurally unattached to the housing.

20. The method of claim 19, including:  
providing the power system with a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV; and  
providing the x-ray source with a shielding comprising a low-density insulating material containing a high-Z substance.

21. A method for analysis, comprising:  
providing a digital x-ray camera with a housing containing an x-ray source and an integrated power system, with detecting means structurally unattached to the housing; and  
powering the x-ray source using the integrated power system.

22. The method of claim 21, including:

providing the power system with a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV; and

providing the x-ray source with a shielding comprising a low-density insulating material containing a high-Z substance.

5           23.    A method for dental imaging, comprising:

providing a digital x-ray camera with a housing containing an x-ray source and an integrated power system, with detecting means structurally unattached to the housing; and

powering the x-ray source using the integrated power system so that x-rays impinge in the teeth of a patient.

10           24.    The method of claim 23, including:

providing the power system with a plurality of low voltage power supplies with each power supply providing a power ranging from about 20 to about 50 kV; and

providing the x-ray source with a shielding comprising a low-density insulating material containing a high-Z substance.

15           25.    The device of claim 1, further comprising a controllable display means.

26.    The device of claim 25, wherein the controllable display means is integrated into the housing.

27.    The device of claim 25, wherein the controllable display means is external to the x-ray device.

20           28.    The device of claim 25, wherein the controllable display means comprises a portable electronic device.

29. The device of claim 28, wherein the portable electronic device enhances the image analysis of the x-ray device.

30. A portable x-ray device, comprising:

a housing containing an x-ray source;

5 controllable display means; and

detecting means structurally unattached to the housing.